

Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

A984 Pro

IIS

[United States Department of Agriculture]

Agricultural Research Service
Program Aid 1417

RESERVED

245

The National Bonsai and Penjing Museum

at the U.S. National Arboretum

CURRENT
PROC

NATIONAL ARBORETUM
WASHINGTON D.C.



The National Bonsai and Penjing Museum

The art of shaping trees and shrubs in miniature began in China at least as early as 700 A.D. and was introduced into Japan about 500 years later. In America, the art was generally unknown until the 1950's.

The original Chinese form of this art is called penjing—"pot plants with landscape." An offshoot of penjing, called bonsai (BONE SIGH) in Japanese, is more familiar to Westerners. Bonsai means "dwarfed ancient trees in pots without landscape."

Penjing and bonsai have many differences, physical, regional, artistic, and philosophical. Penjing are meant to be viewed from the outside looking in. The landscapes are complete with trees, rocks, people, boats, animals, birds, and pagodas.

Bonsai are meant to be viewed from the inside looking out. They recreate the tranquility and serenity of an old forest; there are no figurines.

Inspiration for penjing came from literati brush paintings, a bold, calligraphic style that emphasizes shape and texture. Penjing focus on the character of trunks and branches; foliage is a secondary consideration.

The Japanese try to capture in miniature a whole tree—one of venerable age—complete with exposed roots, trunks with bark, drooping branches, and foliage.

Central to the art of bonsai/penjing is the dwarfing and training of woody plants to grow in pots either singly or in groups. The results are not true miniatures—fruits and flowers are about the same size they would be on a tree or shrub of normal height; leaves are generally smaller.

Plants that have small, closely spaced leaves and interesting branch structures lend themselves best to the design of bonsai and penjing. The ability to grow well in containers and the hardiness to withstand repeated pruning of roots, tops, and branches are important horticultural considerations.

Cover

Japanese red pine from the Imperial Household seen from the Formal Walled Garden.



Japanese white pine, 350 years old, the oldest bonsai in the collection.

Bonsai and Penjing at the National Arboretum

National Bonsai Collection

In commemoration of America's bicentennial in 1976, the Nippon Bonsai Association of Japan presented 53 bonsai and 6 viewing stones to the American people. This priceless gift became the foundation of the National Bonsai and Penjing Museum at the U.S. National Arboretum in Washington, D.C.

The original 53 bonsai were some of Japan's most treasured specimens. Among them: a 350-year-old Japanese white pine (the oldest in the collection) and a 180-year-old Japanese red pine from the Imperial Household—the first bonsai from the Imperial collection to leave the country.

Several bonsai have since been added to the collection, including:

- Goshin, or Protector of the Spirit, a planting of 11 Chinese junipers, each representing a member of the family of the artist-donor, American bonsai master John Naka.

- A ponderosa pine from the West Coast, given in 1980 to commemorate the 75th anniversary of the U.S. Department of Agriculture's Forest Service.
- A Japanese white pine and a persimmon presented in 1983 to President and Mrs. Ronald Reagan by His Majesty Hassan II, King of Morocco, from his personal collection and transferred to the National Arboretum for display.

Penjing Collection

In 1986, Yee-sun Wu of Hong Kong presented to the American people a collection of penjing, a gift that included plants donated by Shu-ying Lui. The 31 penjing range in age from 15 to 200 years. Some of them grow in irreplac-



250-year-old Sargent juniper, its trunk an intertwining of white deadwood and dark living wood.

able antique containers. One of these is a 300-year-old rectangular, greenish white pot made in Shirwan, Guandong, China.

The penjing include a Chinese elm that clings to a Ying Tak stone in a rectangular white marble pot, a 100-year-old jasmine orange, a Fukien tea in a round antique pot, a small-leaved banyan, and a Guandong fir.

The Bonsai and Penjing Museum Gardens

Eventually, the National Bonsai and Penjing Museum will be a complex of oriental gardens and pavilions and of teaching and support facilities funded through private donations. Currently, the complex, which occupies 2.5 acres on the east side of the Arboretum's administration building, includes the Japanese gardens, the bonsai pavilion, and winter storage facilities.



Chrysanthemum viewing stone.



Chinese elm, one of the 31 penjing given to the American people in 1986.

Japanese Gardens and Bonsai Pavilion

The Japanese gardens and bonsai pavilion are essentially complete. Their principal architect, Masao Kinoshita of Sasaki Associates, Watertown, Massachusetts, designed them to be an American interpretation of Japanese concepts of gardening and architecture. The four gardens serve as linked anterooms to the bonsai pavilion, gradually introducing the visitor to the concepts and natural materials that the Japanese use in their gardens.

The Ellen Gordon Allen Entrance Garden, designed as a transition from western to oriental style, is a gift from Ikebana International in memory of its founding president. This garden, landscaped with Japanese plants, will include a ceremonial gate and will lead the visitor into the Cryptomeria Walk, a forest of *Cryptomeria*, or Japanese cedars. These are underplanted with various shade-loving Japanese wildflowers and ferns being studied for landscape potential in the United States.

The Cryptomeria walk opens into the Sunny Garden, a section devoted to sun-loving herbaceous species of Japanese origin. Finally, after a righthand hairpin turn, visitors enter the Formal Walled Japanese Garden.

Plants, stones, and water are the three main design elements of the Formal Walled Garden. Placement of all the garden's features is based on a Japanese aesthetic symbolism. The peninsula with the lantern, for instance, is meant to guide the gods into mortal areas of the garden; the large stones in the walkway represent the problems in life that people have to work around.

Japanese black pines form the garden's spiny backbone, and crapemyrtles, flowering cherries, and Japanese red maples grow along the walls and arch protectively over the walkway to filter out the sun. The sculpturing and density of the plant material is meant to prepare visitors for the compactness and shaping of bonsai.

The stones have been carefully placed to provide contrast in color and texture, a foundation of strength and stability. The quiet, reflective water in the pond creates a sense of tranquility, a remoteness from the stresses of the world outside the garden.

The narrow stone path requires visitors to walk single file in some places, allowing them to be within the garden rather than outside looking in. The path curves and winds to give an illusion of depth and to encourage people to move through the garden slowly, savoring its small pleasures.

In three places, the walkway widens to present several bonsai. Stone lanterns call attention to obstacles and turning points along the walkway. The Japanese decorative stone basin at the final turn catches rain water for the bonsai.

At the end of the garden path is the entrance to the bonsai pavilion. Just inside the entrance, framed by its doorway, is the great Japanese red pine from the Imperial Household.

Many of the plant species in the Sunny Garden and the Formal Walled Garden were collected by Arboretum botanists and plant explorers in Japan. Several species growing in the gardens are also found in miniature in the bonsai collection.

Viewing Stones

The same love for natural form expressed in bonsai is also found in suiseki, or stone viewing, long associated with bonsai in Japanese tradition. Part of the bicentennial gift from Japan was a collection of priceless, unique viewing stones. They are displayed in the lobby of the Arboretum administration building until an area is built for them in the Museum.

A Penjing Pavilion

A permanent shelter to house the penjing collection will be built to replace the current wooden walled pavilion where they are now on display. The design for the permanent pavilion includes moon gates, display windows and stands, and a rockery.

The National Bonsai Foundation

The private, nonprofit National Bonsai Foundation was established in 1982 to consolidate public support for the collection and for the complex of gardens. Fundraising is underway for several added structures, including the



Goshin, a forest of Foemina junipers, an original member of the American bonsai collection.

separate pavilions for the penjing and American bonsai and facilities for staff, classrooms, and winter storage for the trees.

Long-term plans include a Japanese tea-house overlooking a small Koi pond and added display areas, landscaping, and plant-holding facilities.

Bonsai Basics

The basic idea of bonsai is to create the illusion of a magnificent old tree standing alone in an open field or of a group of trees in a forest, with moss, small plants, and perhaps rocks to suggest the forest floor. The bonsai artist has these goals in mind when selecting plants to work with.

Bonsai require meticulous care, though actual time devoted each day to a single bonsai is relatively short. Each bonsai must be kept in conditions suitable to the species, which means they're mostly better off outdoors.

They should be protected from temperature extremes and from insects and disease, watered and fertilized as appropriate, rotated one-quarter turn each day to give even exposure to the sun, and repotted every 2 to 7 years, depending on growth rate of roots. These are familiar horticultural requirements for container plants.

Bonsai also need periodic pruning of roots, tops, and branches, as required to keep the desired size and shape. Roots are combed out and trimmed back by about one-third whenever the plant is repotted. The bonsai artist often uses wires to train branches to grow into certain patterns.

Traditionally, bonsai were collected in the wild, where they had been shaped by natural forces. The bonsai artist then took over. Today, they are usually grown from scratch, starting with the young tree.

The setting for bonsai is part of the design. The container should complement the planting, not compete with it for attention. Ideally, its depth should equal the diameter of the tree trunk at ground level, and its length should be about two-thirds the height of the tree. Color and style of the container are also important.

Many books are available that give detailed instructions on how to grow bonsai. Consult your local library or look for a bonsai club in your area. There are more than 150 bonsai clubs throughout the United States.

Bonsai Research

In keeping with the National Arboretum's primary purpose—to carry out research and education programs on ornamental trees and other landscape plants—the Bonsai and Penjing Museum is the hub of various research and education activities related to the culture of

artistic pot plants. The complex of gardens and pavilions is just one of the educational activities.

The Arboretum also fosters and encourages research on the history, artistry, species, culture, maintenance, and rejuvenation of bonsai. For example, it maintains several groups of plants for basic scientific experimental studies to compare the effects of different methods of watering on trunk growth.

Maintaining and adding to the bonsai/penjing collection is another form of research, both historical and horticultural. The Arboretum's bonsai collections policy is to gather and display representative examples of the various styles, species, traditions, countries of origin, and ages of bonsai.

The Arboretum is also assembling definitive collections of all materials relating to bonsai in literature and art such as containers, training tools, display stands, scrolls, and viewing stones.

Issued September 1988

Supersedes Program Aid 1158

Photographs copyright Peter L. Bloomer

Technical information provided by Robert Drechsler, curator of the National Bonsai and Penjing Museum, and by Erik Neumann, head, Education Unit, U.S. National Arboretum.